FEBRUARY 14, 1983

CHEMICAL & ENGINEERING

NEWS

Chemical earnings hit bottom
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Catalysis

Metal complexes bring new selectivity to bond activation

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CHEMICAL & ENGINEERING NEWS

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News of the Week

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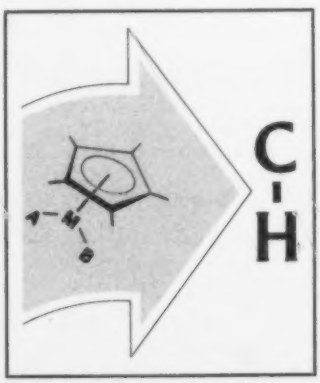


News Focus

New impetus in catalysis research emerging from study of C-H bond activation in alkanes. **Page 9**

Chemical Earnings Fell Again in Fourth Quarter

William J. Storck and David Webber,
C&EN New York

The fourth quarter of 1982 ran true to form as far as earnings of U.S. chemical producers were concerned. Like the three previous quarters, earnings for chemical companies, as well as oil companies and diversified manufacturers that produce chemicals, fell—and fell hard.

The only hope now is that 1983 will be better. And early signs show more health in the economy in the first quarter of this year than there has been for some time.

On a strict year-to-year basis, it seemed reasonable to assume that the fourth-quarter drop in chemical earnings might not be as large as in the three previous quarters of 1982, since fourth-quarter 1981 was fairly weak. However, this was not to be the case. Chemical companies performed almost as poorly in the fourth quarter as in the earlier three-month periods, with earnings falling 32% from fourth-quarter 1981.

Again, low demand and falling prices were the primary reasons for the drop in earnings. In the fourth quarter of 1982, prices dropped, according to government figures, an average of 0.9% from their year-earlier level. This was the second quarterly drop in the average producer price index in the year and also the largest.

In the third quarter, prices decreased an average of 0.4%. Production in the fourth quarter also declined because of depressed demand, as it had done in the four previous quarters. The average drop in chemical production in the fourth quarter was about 5.4%. This, however, was less than the 10.9% decline in the third quarter, the 11.2% fall in the

Chemical industry leaders for fourth quarter . . .

Sales				Earnings[a]			Profitability		
Rank		$ Millions	Rank 1981		$ Millions	Rank 1981		Earnings as % of sales	Rank 1981
1	Dow Chemical	$ 2561.0	1	Allied Corp.	$ 54.0	2	Freeport-McMoRan	11.1%	1
2	Union Carbide	2280.0	2	W. R. Grace	54.0	3	Nalco Chemical	9.4	3
3	W. R. Grace	1592.2	3	FMC	45.7	5	Petrolite	9.4	2
4	Monsanto	1466.2	5	Monsanto	42.3	6	Stauffer Chemical	7.2	5
5	Allied Corp.	1444.0	4	PPG Industries	41.6	7	Loctite	7.0	6
6	FMC	886.4	7	Union Carbide	30.2	1	First Mississippi	6.9	2
7	PPG Industries	821.2	8	Air Products	28.0	10	Ethyl	6.8	12
8	Celanese	710.0	6	Ethyl	26.1	14	International Minerals	6.7	7
9	Hercules	576.0	9	Hercules	22.4	16	FMC	5.2	10
10	National Distillers	453.6	10	International Minerals	21.7	12	PPG Industries	5.1	14

. . . and for full-year 1982

Sales				Earnings[a]			Profitability		
Rank		$ Millions	Rank 1981		$ Millions	Rank 1981		Earnings as % of sales	Rank 1981
1	Dow Chemical	$10,618.0	1	Monsanto	$347.0	3	Freeport McMoRan	11.1%	1
2	Union Carbide	9,060.0	2	Dow Chemical	342.0	1	Nalco Chemical	10.0	2
3	Monsanto	6,325.8	3	Union Carbide	309.7	2	Petrolite	9.7	3
4	Allied Corp.	6,167.0	5	Allied Corp.	280.0	4	Stauffer Chemical	7.3	4
5	W. R. Grace	6,127.6	4	W. R. Grace	254.4	5	Air Products	6.9	5
6	FMC	3,498.8	7	PPG Industries	155.1	6	Loctite	6.4	11
7	PPG Industries	3,295.5	8	FMC	152.4	7	First Mississippi	6.2	7
8	Celanese	3,062.6	6	Stauffer Chemical	117.5	9	Ethyl	5.8	14
9	Hercules	2,469.0	9	Air Products	108.4	14	Monsanto	5.5	12
10	National Distillers	1,831.3	10	Hercules	98.4	12	International Minerals	4.9	5

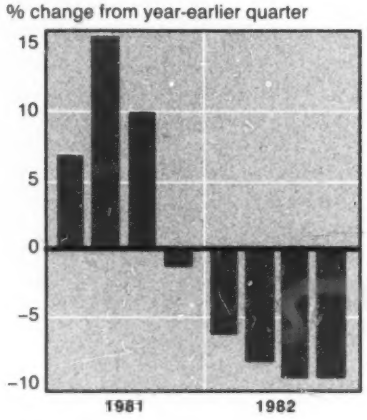
a After taxes. **Note:** For 40 companies listed on page 16.

Chemical industry 1982 fourth-quarter results

- Sales dropped 9%
- Earnings plunged 37%
- Profitability fell again
- Production sank 5.4%
- Prices slipped 0.4%

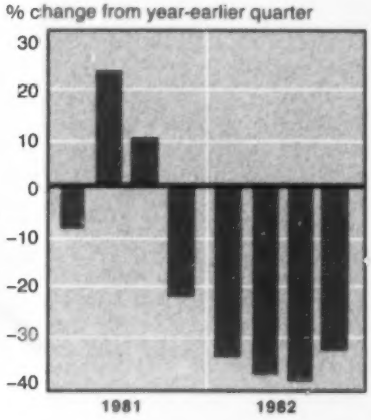
Sales

% change from year-earlier quarter



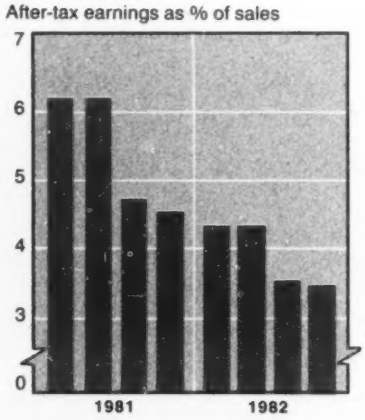
Earnings

% change from year-earlier quarter



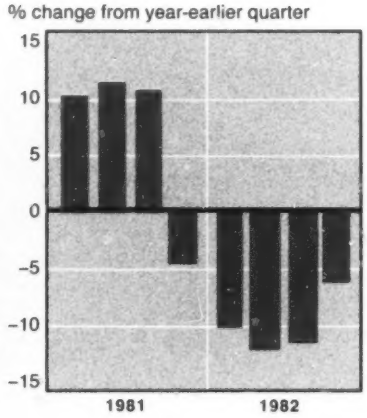
Profit margins

After-tax earnings as % of sales



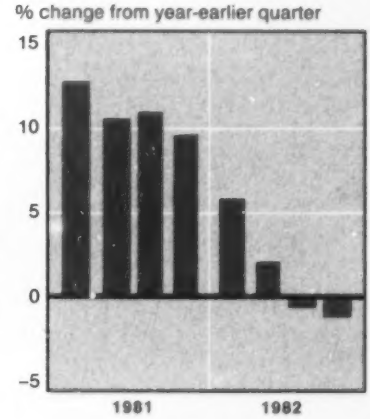
Production

% change from year-earlier quarter



Prices

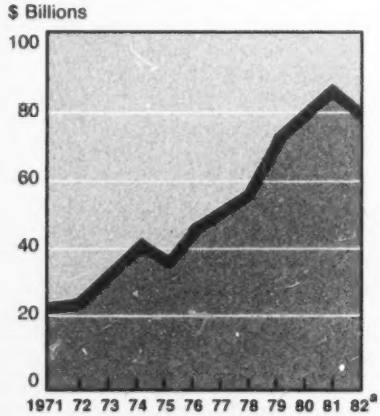
% change from year-earlier quarter



Sales in 1982 fell about 8%, and earnings dropped more than 33%, pushing profitability down to about 4.1%

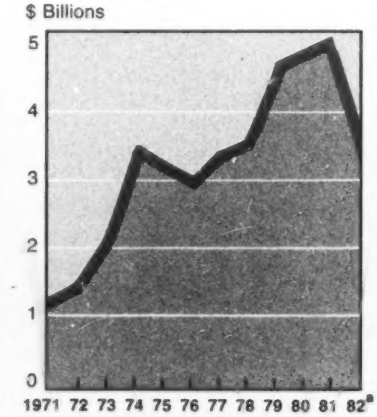
Annual sales

$ Billions



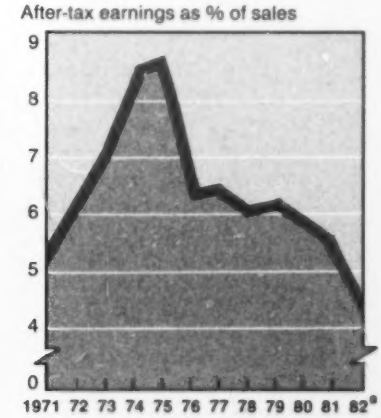
Annual earnings

$ Billions



Annual profit margins

After-tax earnings as % of sales



a C&EN estimates. **Note:** All sales, earnings, and profit-margin data are based on the combined performance of the 40 largest chemical makers listed on page 16.

Earnings for chemical firms were down more than 32% for both fourth quarter and full year

	FOURTH-QUARTER 1982						FULL-YEAR 1982			
	Sales	Earnings	Change from 1981		Profit margin[a]		Sales	Earnings	Change from 1981	
	($ millions)		Sales	Earnings	1982	1981	($ millions)		Sales	Earnings
Dow Chemical[d,e]	$ 2,561.0	$ 13.0	−14%	−81%	0.5%	2.2%	$10,618.0	$ 342.0	−11%	−39%
Union Carbide	2,280.0	30.2	−6	−78	1.3	5.8	9,060.0	309.7	−11	−52
W. R. Grace[f]	1,592.2	54.0	−10	−35	3.4	4.7	6,127.6	254.4	−6	−23
Monsanto[g]	1,466.2	42.3	−6	−18	2.9	3.3	6,325.8	347.0	−9	−8
Allied Corp.[h]	1,444.0	54.0	−15	−41	3.7	5.4	6,167.0	280.0	−4	−18
FMC	886.4	45.7	1	−14	5.2	6.1	3,498.8	152.4	4	−14
American Cyanamid[i]	—	—	—	—	—	4.7	—	—	—	—
PPG Industries[e]	821.2	41.6	2	6	5.1	4.9	3,295.5	155.1	2	−27
B. F. Goodrich[i]	—	—	—	—	—	2.7	—	—	—	—
Celanese[j]	710.0	−15.0	−20	def	def	4.0	3,062.0	5.0	−18	−97
Hercules	576.0	22.4	−11	39	3.9	2.5	2,469.0	98.4	−9	−28
National Distillers	453.6	17.2	−13	−53	3.8	7.1	1,831.3	79.1	−10	−42
Morton-Thiokol[k]	423.7	20.8	—	—	4.9	—	1,076.0	52.3	—	—
Olin[l]	415.4	6.2	−7	−55	1.5	3.1	1,823.1	62.8	−9	−32
Stauffer Chemical[m]	398.7	4.2	6	−83	1.1	6.6	1,618.2	117.5	−6	−18
Air Products	388.1	28.0	4	−19	7.2	9.3	1,583.5	108.4	—	−16
Ethyl Corp.	383.6	26.1	−11	10	6.8	5.5	1,614.6	94.2	−8	4
Rohm & Haas	383.4	14.0	−7	1	4.1	3.4	1,828.0	75.2	−3	−23
Williams Cos.	358.9	4.7	−15	−23	1.3	1.4	1,691.3	29.7	−14	−70
International Minerals[n]	325.5	21.7	−12	−23	6.7	7.6	1,501.9	74.3	−16	−49
Witco Chemical[o]	303.7	7.7	−1	−31	2.5	3.7	1,305.4	27.9	1	−28
Pennwalt	219.6	0.0	−12	def	0.0	def	952.4	24.5	−10	−33
Lubrizol[i]	—	—	—	—	—	8.6	—	—	—	—
Freeport-McMoRan[p]	191.8	21.2	−4	−31	11.1	15.3	747.9	82.8	−11	−48
Reichhold Chemicals[q]	184.8	0.7	−12	−53	0.4	0.7	814.9	7.0	−14	−59
GAF[i]	—	—	—	—	—	def	—	—	—	—
Nalco Chemical	158.9	14.9	−11	−30	9.4	12.0	643.9	64.3	−3	−21
International Flavors[i]	—	—	—	—	—	12.5	—	—	—	—
Liquid Air[i]	—	—	—	—	—	7.2	—	—	—	—
H. B. Fuller Co.	96.6	2.0	17	−38	2.1	3.9	331.8	8.6	1	−37
Petrolite	71.6	6.7	−7	−12	9.4	9.9	302.6	29.3	2	5
Chemed[i]	—	—	—	—	—	7.0	—	—	—	—
Stepan Chemical[i]	—	—	—	—	—	4.2	—	—	—	—
Crompton & Knowles[r]	51.0	1.2	−10	−56	2.4	4.8	213.2	3.9	−12	−55
Loctite	50.2	3.5	−5	−17	7.0	8.0	212.5	13.6	−3	−1
First Mississippi	43.5	3.0	−34	−65	6.9	12.9	206.5	12.7	−41	−46
Great Lakes Chemical[i]	—	—	—	—	—	9.5	—	—	—	—
Essex Chemical[i]	—	—	—	—	—	3.8	—	—	—	—
Philip A. Hunt	25.7	0.2	−13	def	0.9	def	114.8	5.3	3	40
Lawter International[i]	—	—	—	—	—	11.9	—	—	—	—
Total 18 larger companies	**$15,444.2**	**$510.3**	**−9.1%**	**−32.7%**	**3.3%**	**4.5%**	**$64,115.6**	**$2584.2**	**−8.2%**	**−33.1%**
Total 11 other companies	**$ 1,397.4**	**$ 61.1**	**−7.5%**	**−30.0%**	**4.4%**	**5.8%**	**$ 5,875.9**	**$ 279.9**	**−7.5%**	**−34.0%**
GRAND TOTAL	**$16,841.6**	**$571.4**	**−9.0%**	**−32.5%**	**3.4%**	**4.6%**	**$69,991.5**	**$2864.1**	**−8.2%**	**−33.2%**

a After-tax income as a percentage of sales. b Fully diluted before nonrecurring and extraordinary items. c As of Jan. 31. d Excludes $57 million extraordinary gain in 1982. e Includes nonrecurring items. f Excludes $65.1 million nonrecurring gain in 1982 and $34.9 million gain in 1981. g Excludes $67.7 million nonrecurring gain in 1981. h Excludes nonrecurring charge of $8 million in fourth-quarter and full-year 1982, $33 million charge in fourth-quarter 1981, and total $5 million gain for full-year 1981. i Not all information available at press time. j Excludes nonrecurring charge of $39 million in fourth-quarter and full-year 1982. k Since merger of Morton and Thiokol, previous quarterly figures have not been restated, making comparisons with

second quarter, and the 10.0% drop in the first quarter of 1982.

The drop in production was caused by the continuing problem of low demand for chemicals. There was little activity in housing markets for the chemical industry, affecting a wide range of products. And demand for autos, which use a lot of chemical products, continued to falter as consumer spending all but dried up.

Add to these downswings problems in the agricultural area and their effect on chemicals. Fertilizers and specialty agricultural chemicals had held up through the recession probably as long, if not longer, than most other chemicals. Finally, however, falling farm income caught up with them and drove down fertilizer production. Toward the end of last year, price cutting occurred even in pesticides.

The strength of the U.S. dollar

FULL-YEAR 1982		Earnings per share[b]		STOCK MARKET DATA[c]					
Profit margin[a]					Recent 12 months		Price earnings ratio	Annual indicated	Dividend yield, %
1982	1981	4th qtr	Full year	Jan 31	High	Low	Jan. 31	dividend	of price
3.2%	4.8%	$0.07	$1.77	$28 3/4	$30 3/8	$19 5/8	16	$1.80	6.3%
3.4	6.4	0.42	4.47	56	61	40 1/8	13	3.40	6.1
4.2	5.0	1.11	5.18	40 1/4	45 1/2	28 1/2	8	2.80	7.0
5.5	5.4	1.00	8.67	83 5/8	89	56 5/8	10	4.00	4.8
4.5	5.4	1.12	6.46	34 5/8	43 1/2	28 3/4	5	2.40	6.9
4.4	5.2	1.27	4.23	35 5/8	37 1/2	23 3/8	8	1.80	5.1
—	4.3	—	—	35 5/8	37 1/2	24 3/8	12	1.75	4.9
4.7	6.3	1.20	4.51	54 7/8	57 3/4	29	12	2.36	4.3
—	2.9	—	—	31 1/2	36	16 5/8	23	1.56	5.0
0.2	3.8	−1.02	0.05	54	59 7/8	41 1/4	1080	4.00	7.4
4.0	5.0	0.49	2.22	28 3/4	31 1/4	18 7/8	13	1.32	4.6
4.3	6.7	0.45	2.15	25 1/2	26 7/8	18 7/8	12	2.20	8.6
4.9	—	1.20	—	58 7/8	59 3/4	27 3/4	6	1.60	2.7
3.4	4.6	0.26	2.66	25 1/8	27 1/2	15 1/2	9	1.20	4.8
7.3	8.7	0.10	2.67	23 3/4	28 3/8	17	9	1.44	6.1
6.9	8.1	0.94	3.84	41 7/8	46	23 5/8	11	0.80	1.9
5.8	5.2	1.24	4.50	35 3/8	36	18 1/8	8	1.50	4.2
4.1	5.1	1.08	5.82	83 1/2	86	45 1/2	14	2.80	3.4
1.8	5.0	0.16	1.00	20 1/4	30 1/4	12 5/8	20	1.20	5.9
4.9	8.1	0.81	2.80	38 1/8	38 1/2	23 1/2	14	2.60	6.8
2.1	3.0	0.79	2.84	30 1/2	30 1/2	20 5/8	11	1.80	5.9
2.6	3.5	—	2.37	31	34 7/8	21 1/2	13	2.20	7.1
—	10.5	—	—	19 1/2	23 1/2	14 1/4	13	1.08	5.5
11.1	19.0	0.30	1.19	21 1/8	23 5/8	12 1/4	18	0.60	2.8
0.9	1.8	0.00	0.59	18 1/2	19 7/8	10	31	0.48	2.6
—	def	—	—	14 1/8	15	8 5/8	8	0.20	1.4
10.0	12.2	0.38	1.62	30 1/8	34	18	19	1.12	3.7
—	12.5	—	—	24 1/2	30	17 3/8	14	1.04	4.2
—	7.2	—	—	22 1/2	23	14 1/2	10	1.60	7.1
2.6	4.1	0.44	1.87	26 1/2	26 1/2	14 1/4	14	0.52	2.0
9.7	9.4	0.57	2.47	30 1/2	33 3/4	19 3/4	12	1.00	3.3
—	10.0	—	—	33 5/8	36 3/4	21 5/8	24	1.25	3.7
—	3.2	—	—	14 3/8	16 1/8	9 1/4	8	0.56	3.9
1.8	3.5	0.35	1.14	19 7/8	22 1/4	12 1/8	17	1.04	5.2
6.4	6.2	0.35	1.37	34 1/4	34 1/4	18 1/8	25	0.56	1.6
6.2	6.8	0.15	0.63	9 3/4	13 3/8	6	15	0.24	2.5
—	8.6	—	—	35 1/4	40 1/4	24 7/8	18	0.56	1.6
—	4.7	—	—	20 1/4	23 5/8	15 7/8	8	0.80	4.0
4.6	3.4	0.04	0.93	17 3/4	18 1/8	8 5/8	19	0.50	2.8
—	11.5	—	—	12 7/8	13 3/8	8 5/8	88	0.72	5.6
4.0%	**5.5%**								
4.8%	**6.7%**								
4.1%	**5.5%**								

prior data meaningless. l Excludes $9.5 million charge fourth-quarter 1982. m Excludes consolidated nonrecurring gain in fourth-quarter of $6.0 million. n Excludes nonrecurring gains totaling $41.3 million in fourth-quarter 1981. o Excludes $1.9 million nonrecurring gain for 1982. p Excludes nonrecurring charges totaling $38.6 million in fourth-quarter and $16.9 million in full-year 1982 and loss of $4.5 million in fourth-quarter 1981. q Excludes nonrecurring gain of $2.1 million in fourth-quarter 1982, and charges totaling $2.3 million in full-year 1982. r Excludes $1.3 million nonrecurring gain in fourth-quarter 1982. **def** = deficit.

against other currencies and problems in the economies of many foreign countries cut heavily into exports of U.S. chemicals to overseas markets. As a result, exports of U.S. chemicals dropped 6.1% in 1982 from 1981 levels. In fourth-quarter 1982, exports were more than 11% below the level of the same period in 1981.

Lack of demand is evident in many other indicators of the chemical economy. For instance, capacity utilization in the U.S. chemical industry averaged less than 65% for most of the year. Employment was well off from 1981 levels. And the inventory-to-shipments ratio for chemicals averaged moderately high all year.

The only bit of good news was that many companies got a cost break as raw materials suppliers were unable to increase prices. For instance, Vincent L. Gregory, chairman of Rohm

Earnings declined at most chemical producing oil and gas companies

	% chemical sales	FOURTH-QUARTER 1982 Sales ($ millions)	Earnings ($ millions)	Change from 1981 Sales	Change from 1981 Earnings	Profit margin[a] 1982	Profit margin[a] 1981	FULL-YEAR 1982 Sales ($ millions)	Earnings ($ millions)	Change from 1981 Sales
Exxon[b]	8%	$26,241.0	$1480.0	−12%	7%	5.6%	4.6%	$103,649.0	$4185.0	−10%
Mobil[c]	3	16,200.0	432.0	−11	−26	2.7	3.2	63,800.0	1530.0	−4
Texaco[d]	3	11,700.0	343.0	−20	−32	2.9	3.5	48,000.0	1421.0	−19
Standard Oil of California	3	—	—	—	—	—	—	—	—	—
Standard Oil (Ind.)[e]	10	7,500.0	415.0	−4	8	5.5	4.9	29,900.0	1880.0	−6
Gulf Oil[f]	8	8,160.0	321.0	3	5	3.9	3.9	30,658.0	1090.0	1
Atlantic Richfield	10	7,095.1	434.0	−1	−8	6.1	6.6	26,991.0	1676.0	−4
Shell Oil[g]	17	5,176.0	438.0	0	−4	8.5	8.8	20,214.0	1567.0	−7
Phillips Petroleum[h]	16	4,060.0	310.6	−1	67	7.7	4.6	15,890.0	801.9	−3
Sun Co.[i]	5	4,100.0	151.0	−9	1	3.7	10.0	16,300.0	537.0	0
Tenneco[j]	10	3,896.0	278.0	−8	10	7.1	6.0	14,979.0	840.0	−1
Standard Oil (Ohio)	4	3,216.7	463.9	−15	−3	14.4	12.7	13,529.2	1879.1	−4
Getty Oil	2	3,013.8	172.7	−13	−20	5.7	6.2	12,326.0	691.6	−7
Union Oil	11	2,736.1	225.1	−6	−5	8.2	8.1	10,900.0	804.0	−4
El Paso	15	—	—	—	—	—	—	—	—	—
Kerr-McGee	14	1,020.0	73.5	−5	11	7.2	6.2	3,780.0	209.8	−1
Internorth	10	—	—	—	—	—	—	—	—	—
American Petrofina	13	530.4	14.8	0	−13	2.8	3.2	2,253.7	54.4	−11

a After-tax earnings as percentage of sales. b Excludes nonrecurring $106 million charge in 1982. c Excludes nonrecurring $150 million in fourth-quarter 1982. d Excludes nonrecurring $37 million charge in fourth-quarter 1982 and $103 million in charges in prior quarters in 1982. e Excludes nonrecurring $54 million charge in 1982 and net nonrecurring gains of $57 million in 1981. f Excludes nonrecurring charge of $190 million in 1982 ($95 million of which in fourth quarter) and nonrecurring charge of $60 million in 1981 ($5 million of which in fourth quarter).

& Haas, says that lower raw material costs were a major contributor to fourth-quarter earnings, which were almost even with last year's after nonrecurring items had been excluded. Gregory says that worldwide raw material costs were 7% lower in the fourth quarter of 1982 than they were in the same quarter of 1981. In North America, raw material costs were 4% lower. At the same time, the company's selling price index was about equal to what it had been in fourth-quarter 1981.

Also, chemical companies have been streamlining their operations. The result has been the shedding of many unprofitable and marginal plants and the lowering of breakeven points in others.

However, these efforts have not been sufficient to save earnings in the fourth quarter. For 29 U.S. chemical companies that have reported fourth-quarter results so far, earnings were down 32.5% to $571 million from fourth-quarter 1981. And sales of these companies took their biggest fall of the year, dropping 9.0% from fourth-quarter 1981 to $16.8 billion.

As a result, profit margins (earnings as a percentage of sales) fell once again. In the fourth quarter, the average profit margin for the 29 chemical companies was 3.4%, compared with 4.6% a year earlier. Thus, profitability of the chemical industry in 1982 has been well below that in each of the corresponding 1981 quarters.

As in many past quarters, the smaller, more specialty-oriented chemical companies performed better, but only slightly better, than did the larger companies, many of which are dominated by commodity chemicals.

For the 18 larger companies that have reported thus far, combined quarterly earnings fell 32.7% from fourth-quarter 1981 to $510 million. Fourth-quarter sales for these companies dropped 9.1% to a total of $15.4 billion. Hence, profit margins for the larger companies fell to an average of 3.3% compared with 4.5% in the like period a year ago.

At 11 of the smaller companies, fourth-quarter earnings fell an average of 30% from a year earlier to $61.1 million. Their sales dropped 7.5% to $1.40 billion. Profit margins for the smaller companies slipped to 4.4% in the fourth quarter from 5.8% in the same quarter in 1981.

The fourth quarter merely capped the year for chemical companies. Earnings for the 29 companies for full-year 1982 dropped 33.2% to $2.86 billion from 1981. At the same time, combined sales fell 8.2% to $70.0 billion.

For the full year, earnings of the larger companies fell less than those of the smaller firms. Earnings for the 18 larger companies fell an average of 33.1% from 1981 to a combined $2.58 billion. Smaller companies' earnings fell an average of 34% to a combined $280 million.

Sales of the smaller firms, however, declined less than those at the larger firms. At the bigger firms, combined sales dropped 8.2% from 1981 to $64.1 billion. Smaller firms' sales fell 7.5% to $5.88 billion.

The smaller firms also continued to outperform the larger ones in profitability, although in both cases profit margins were falling fast. The average profit margin for the 18 larger firms in 1982 was 4.0%, compared with 5.5% for 1981. For the 11

FULL-YEAR 1981			STOCK MARKET DATA							
Change from 1981 Earnings	Profit margin[a] 1982	Profit margin[a] 1981	Earnings per share 4th qtr	Earnings per share 1982	Stock price Jan. 31	Stock price 1982 High	Stock price 1982 Low	Price-earnings ratio Jan. 31	Annual indicated dividend	Dividend yield, % of price
−13%	4.0%	4.2%	$1.71	$4.82	$30⅛	$32¼	$24⅞	6	$3.00	10.0%
−37	2.4	3.5	1.06	3.67	26½	28⅝	19½	7	2.00	7.5
−39	3.0	3.9	1.32	5.46	32¼	34⅞	26	6	3.00	9.3
—	—	—	—	—	33⅛	37	23½	—	2.40	7.2
1	6.3	5.9	1.42	6.43	40⅜	49¾	33½	6	2.80	6.9
−16	3.6	4.2	1.83	6.03	29⅝	35¾	24¼	5	2.80	9.5
0	6.2	5.9	1.70	6.61	44⅛	50	32¼	7	2.40	5.4
−8	7.8	7.8	1.42	5.07	38	45½	27⅛	8	1.80	4.7
−9	5.1	5.4	2.03	5.25	32⅜	40⅛	23½	6	2.20	6.8
−16	3.3	6.6	1.24	4.40	31⅜	39¼	26¾	7	2.30	7.3
5	5.6	5.3	1.96	5.90	32⅜	36½	22⅞	6	2.72	8.4
−4	13.9	13.8	1.89	7.63	37¾	42¼	26½	5	2.60	6.9
−19	5.6	6.5	2.18	8.61	55¼	64⅞	41¼	6	2.60	4.7
2	7.4	7.0	1.30	4.63	30¼	37½	21¼	7	1.00	3.3
—	—	—	—	—	20¾	28⅛	13⅝	10	1.48	7.1
−1	5.6	5.5	1.39	3.98	29	38½	22½	7	1.10	3.8
—	—	—	—	—	26½	29¾	21	6	2.12	8.0
−27	2.4	2.9	1.37	5.03	55½	63⅜	41½	11	3.20	5.8

g Excludes nonrecurring $38 million gain in 1982. h Excludes nonrecurring charge totalling $156 million in fourth-quarter 1982. i Excludes nonrecurring gains of $733 million in fourth-quarter 1981. j Excludes nonrecurring gain of $10 million in fourth-quarter 1982 and net charge of $21 million for all of 1982 and nonrecurring gain of $6 million in fourth-quarter 1981 and $15 million for all of 1981.

Few oil companies made money in chemicals last year

There's no doubt that 1982 was an exceptionally bad year for oil and gas companies. The global oil glut and the lower oil and petroleum product prices that accompanied it made the decline in earnings registered by most U.S. energy firms nearly inevitable. But compared to those companies' chemical operations, the oil and gas results begin to look almost comforting.

It's not just that oil and gas company chemical earnings were off, it's that in most cases there were no earnings at all. Six leading U.S. oil firms providing after-tax data lost a total of $73 million on their chemical operations in 1982, after earning $497 million in 1981. But at least three of them—Exxon, Mobil, and Standard Oil (Ind.)—made some money over the course of the year. In the disastrous fourth quarter, only Exxon managed to record a profit.

The chief culprit, it comes as no surprise, was low prices, the consequence of depressed sales volumes and widespread overcapacity. At Exxon, for instance, where earnings fell 61% over the year and 55% in the fourth quarter, sales volumes dropped 10% in the U.S. and 6% abroad, chairman Clifton C. Garvin Jr. reports. The greatest sufferer remains Gulf Oil, which lost a whopping $229 million on chemical operations last year, $74 million of it in the fourth quarter alone. Most of those losses occurred in the U.S., where Gulf's chemical operations recorded a 1982 deficit of $164 million.

In fact, in a clear sign that the recession truly hit home last year, much of the oil industry's chemical losses took place in the U.S. Reporting its 1981 earnings, for example, Exxon noted that the main damage to chemical profits came from foreign operations. In 1982, by contrast, Exxon chemical earnings declined 26% abroad, but 89% in the U.S. Likewise, Texaco made $19 million abroad, but lost $27 million in the U.S.

There is little hope that after-tax statements of chemical earnings by other oil companies will brighten the picture when they are reported. In pretax statements for the fourth-quarter and full-year 1982, respectively, Atlantic Richfield reports chemical losses of $57 million and $96 million, and Standard Oil (Ohio) reports losses of $20 million and $23 million.

	AFTER-TAX EARNINGS					
	Fourth quarter			Full year		
$ Millions	1982	1981	% change	1982	1981	% change
Exxon	$ 20.0	$44.0	−55%	$ 92.0	$238.0	−61%
Gulf	−74.0	−33.0	def	−229.0	−34.0	def
Mobil	−12.0	23.0	def	21.0	93.0	−77
Shell Oil	−26.0	−11.0	def	−25.0	24.0	def
Standard Oil (Ind.)	−7.0	−9.0	def	76.0	101.0	−25
Texaco	−23.0	13.0	def	−8.0	75.0	def
TOTAL	$−122.0	$27.0	def	$ −73.0	$497.0	def

def = deficit.

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Earnings dropped sharply at many diversified chemical producers

	% chemical sales	FOURTH-QUARTER 1982 Sales ($ millions)	Earnings ($ millions)	Change from 1981 Sales	Change from 1981 Earnings	Profit margin[a] 1982	Profit margin[a] 1981	FULL-YEAR 1982 Sales ($ millions)	Earnings ($ millions)	Change from 1981 Sales
Du Pont[b]	48%	$8368.0	$252.0	−1%	−30%	3.0%	4.3%	$33,331.0	$ 954.0	46%
General Electric	4	7460.0	524.0	−1	16	7.0	6.0	26,500.0	1817.0	−3
U.S. Steel[c]	10	4300.0	−363.0	31	def	def	6.6	18,907.0	−361.0	36
Procter & Gamble[d]	4	3030.0	203.0	5	11	6.7	6.3	12,304.0	823.0	5
Eastman Kodak	19	—	—	—	—	—	—	—	—	—
Dart & Kraft	11	2541.0	117.1	−4	909	4.7	0.5	9,974.4	350.3	−2
Beatrice Foods[e]	5	2313.9	82.0	3	3	3.5	3.6	9,154.0	311.6	2
Goodyear Tire & Rubber[f]	12	2087.1	49.8	−7	19	2.4	1.9	8,688.7	247.6	−5
3M[g]	15	1556.0	144.0	−1	−6	9.3	10.2	6,601.0	624.0	1
Georgia-Pacific	14	1366.0	−43.0	12	def	def	1.8	5,402.0	52.0	0
Aluminum Co. of America[h]	11	1057.1	−46.1	−3	def	def	3.0	4,647.6	−21.5	−7
Bordon[i]	32	1086.0	42.7	2	1	3.9	4.0	4,111.3	137.9	−7
Pfizer	13	860.3	92.5	5	22	10.8	9.3	3,453.6	332.8	6
Martin Marietta	14	940.3	−2.4	9	def	def	4.5	3,526.5	91.6	7
Borg-Warner	24	804.5	48.3	2	−9	6.0	6.7	3,195.3	167.4	2
Esmark[j]	19	892.1	30.1	−2	39	3.4	2.4	3,389.1	92.7	0
Diamond Shamrock	34	755.3	46.2	−13	−23	6.1	6.8	3,200.0	149.5	−6
Merck	23	791.5	99.5	4	8	12.6	12.1	3,063.0	415.1	5
Kaiser Aluminum[k]	17	686.5	−95.3	−7	def	def	def	2,911.5	−86.9	−10
Eli Lilly	15	720.4	99.5	1	15	13.8	12.1	2,963.0	411.8	7
Engelhard[l]	11	602.4	17.2	10	−5	2.9	3.3	2,018.9	64.8	−8
General Tire & Rubber	19	—	—	—	—	—	—	—	—	—
NL Industries	22	415.5	1.7	−38	−98	0.4	14.2	2,213.5	188.8	−10
Koppers[m]	34	380.3	3.9	−22	−81	1.0	4.3	1,585.2	19.2	−17
Uniroyal[n]	26	470.0	−4.0	−16	def	def	2.7	1,967.0	11.0	−13
Northwest Industries[o]	6	389.3	6.6	−53	−93	1.7	10.7	2,306.6	184.6	−26
Upjohn	17	—	—	—	—	—	—	—	—	—
Emhart	16	401.0	24.0	−15	−8	6.0	5.5	1,710.0	80.0	−2
Tyler[p]	34	216.5	2.5	−6	−63	1.1	2.8	870.5	10.2	13
Vulcan Materials	37	169.1	8.1	−14	−55	4.8	9.1	719.4	54.7	−8

a After-tax earnings as percentage of sales. b Excludes nonrecurring $50 million charge in fourth-quarter 1982, nonrecurring net charge of $60 million for all of 1982, and nonrecurring charge of $33 million in fourth-quarter 1981. Results for 1981 reflect Conoco acquisition for only final five months of year. c Excludes nonrecurring charges of $153 million in fourth-quarter 1982 and $122 million for all of 1982 and nonrecurring gains of $40 million in fourth-quarter 1981; includes Marathon Oil results. d Excludes nonrecurring gains of $7 million in fourth-quarter 1982 and $10 million in fourth-quarter 1981. e Excludes nonrecurring $45 million gain in 1981. f Excludes nonrecurring gains of $17 million in 1982, $4 million in fourth-quarter 1981, and $16 million in 1981 overall. g Excludes nonrecurring $7 million gain in fourth-quarter 1982. h Excludes nonrecurring gains of $12 million in fourth-quarter 1982, $20 million earlier in

smaller chemical companies, profit margins in 1982 averaged 4.8%, compared with an average of 6.7% the year before.

Although many economists and security analysts are predicting a better time ahead in 1983, chemical company executives view this year from varying perspectives.

The most pessimistic among executives seems to be those at companies that produce fertilizers, partly because of new government programs that will limit acreage by paying farmers not to grow crops. Payment is made with crops that they are not raising.

International Minerals & Chemicals chairman Richard A. Lenon says, "While cost control efforts continue, the all important spring fertilizer season lies ahead with no encouraging price or volume indicators in sight." And Freeport-McMoRan says that the Administration's program may dampen by 15 to 20% phosphate applications during the spring season. However, with recent improvement in export demand and low producer and consumer inventories of phosphates, first-quarter 1983 fertilizer operating rates and related sulfur use likely will at least match 1982 levels.

A number of executives at both chemical and diversified companies plan to wait and see. At Diamond Shamrock, president and chief operating officer Allan J. Tomlinson says, "Significantly better performance in chemicals won't be possible without a general improvement in economic conditions." NL Industries expects its chemical operations to improve in conjunction with any strengthening of the worldwide economy. And Nalco Chemical president W. H. Clark Jr. says, "Although we expect our sales and earnings to improve as the year progresses, to date we have not received sustained signals that a significant upward trend has begun."

Perhaps Alfred T. Blomquist Jr., chairman and chief executive officer of Philip A. Hunt, sums up for this middle group: "We are approaching 1983 with a great deal of uncertainty about the world economy."

There are companies though, that

FULL-YEAR 1982			STOCK MARKET DATA							
Change from 1981	Profit margin[a]		Earnings per share		Stock price			Price-earnings ratio	Annual indicated	Divided yield, %
						1982				
Earnings	1982	1981	Jan. 31	1982	Jan. 31	High	Low	Jan. 31	dividend	of price
−34%	2.9%	6.3%	$1.05	$4.00	$ 40	$ 44 3/8	$30	10	$2.40	6.0%
10	6.9	6.1	2.30	8.00	103 1/2	100 3/4	58 7/8	13	3.40	3.3
def	def	4.8	−3.75	−3.99	20 5/8	26 5/8	16	—	1.00	4.8
14	6.7	6.2	1.23	7.12	112 1/2	123	78 1/4	16	4.20	3.7
—	—	—	—	—	85 1/4	98 1/8	65 3/8	—	3.00	3.5
1	3.5	3.4	2.14	6.40	66 1/4	72 1/4	48 1/4	10	3.60	5.4
−18	3.4	2.9	0.74	2.83	23 3/8	25 1/8	16 7/8	8	1.50	6.4
2	2.9	2.7	0.67	3.35	33 3/8	36 7/8	18 3/8	10	1.40	4.2
−7	9.5	10.3	1.36	5.31	75 1/4	81	48 3/4	14	3.20	4.3
−68	1.0	3.0	−0.42	0.48	24 1/2	28	13 1/4	51	0.60	2.4
def	def	5.8	−0.61	−0.31	32 7/8	35	21 7/8	—	1.20	3.7
−14	3.4	3.6	1.47	4.67	51 3/4	53 1/2	27 3/4	11	2.22	4.3
22	9.6	8.4	1.17	4.26	68 1/2	80 5/8	49 7/8	16	2.32	3.4
−54	2.6	6.1	−0.11	2.92	42 1/4	47 1/2	22 1/4	15	1.92	4.5
−3	5.2	5.5	1.10	3.90	41	44 1/2	22	11	1.52	3.7
−1	2.7	2.8	1.99	5.85	56 3/4	60 3/4	31	10	1.84	3.2
−35	4.7	6.8	0.73	2.37	24	25 5/8	16 1/2	10	1.76	7.3
4	13.6	13.6	1.34	5.61	85 3/4	89	64	15	2.80	3.3
def	def	4.1	−2.20	−2.02	16 5/8	18 1/8	11 1/2	—	0.60	3.6
10	13.9	13.5	1.31	5.42	62 3/4	65 1/4	45 1/8	12	2.60	4.1
−10	3.2	3.3	0.64	2.41	33 5/8	36 7/8	18 3/8	14	0.56	1.7
—	—	—	—	—	32 5/8	35 1/4	17 7/8	—	1.50	4.6
−40	8.5	12.8	0.01	2.90	17 1/8	34 3/4	14 1/4	6	1.00	5.8
−64	1.2	2.8	0.06	0.42	17 3/8	18 1/4	11 1/4	41	1.40	8.1
−84	0.6	3.0	−0.18	0.33	12 1/2	13 7/8	5 7/8	38	—	—
−34	8.0	8.9	0.48	8.75	38	80 1/2	32 1/2	4	2.68	7.1
—	—	—	—	—	50 3/4	59 3/8	38	—	2.28	4.5
7	4.7	4.3	1.95	6.53	48	49 3/4	27 3/4	7	2.60	5.4
−63	1.2	3.6	0.25	1.08	22	22 1/4	12 1/8	20	0.60	2.7
−30	7.6	10.0	0.71	4.73	59 7/8	64	38 3/4	13	2.44	4.1

1982, and $10 million in 1981. l Excludes nonrecurring $28 million gain in 1982. j Excludes nonrecurring gains totaling $15 million in fourth-quarter 1982 and net nonrecurring charge of $5 million in fourth-quarter 1981. k Excludes net nonrecurring gains of $28 million in fourth-quarter 1982. l Excludes nonrecurring $5 million charge in 1981. m Excludes nonrecurring charges of $53 million in fourth-quarter 1982, $50 million for all of 1982, $7 million in fourth-quarter 1981, and $1 million for all of 1981. n Excludes nonrecurring charges of $10 million in fourth-quarter 1982 and $15 million in fourth-quarter 1981 and net gain of $15 million in 1982 overall. o Excludes nonrecurring gain of $141 million in 1981. p Excludes nonrecurring $5 million gain in 1981. **def** = deficit.

see increasing and perhaps definite signs of economic improvement. For instance, Olin chairman John M. Henake says, "We believe the low point of the recession was reached in the November–December period. There are signs that economic activity in our basic businesses is starting to improve. We expect continuing but modest improvement as the year progresses. But starting at a business level significantly lower than that of January 1982, it will take some time before year-to-year comparisons become favorable." Rohm & Haas' Gregory is very specific. "The company's plans for 1983 assume slow economic growth, modest increases in feedstock costs, and a continuation of current inflation rates."

Monsanto chairman John W. Hanley says, "As 1983 begins, we see several improving economic signals, including lower interest rates, a measurable upturn in single family housing starts, and predictions of substantially increased U.S. auto production in the first quarter. However, we still anticipate modest economic growth in 1983, although less than that which normally follows a recession.

A number of companies in quarterly statements commented on the overseas markets. At H. B. Fuller, president Anthony L. Andersen stated that Latin American results reflect the continued effect of the strong U.S. dollar relative to local currencies, causing a decline in both sales and net earnings for the year. However, he did note significant improvement in the company's operations in Brazil and Argentina.

Petrolite, a producer of oil field chemicals, felt the effects of the current oil glut. Petrolite says that foreign oil field sales were flat for the quarter as weakened demand among major oil producers offset gains in other areas.

And at Loctite, chairman and chief executive officer Robert H. Krieble says that although sales to U.S. automotive repair and consumer markets were up sharply, they were not sufficient to offset continued weakness in industrial markets both in the U.S. and abroad nor the effect of the stronger U.S. dollar. □

Reinforced plastics producers predict recovery

Like many other forecasters, producers of reinforced plastics were predicting reasonably good growth for their products at this time last year. And like most other forecasters, they were wrong. Shipments of reinforced plastics plunged 17% in 1982, a drop almost as severe as that registered in 1980, another disastrous year. This year, producers expect sales volume to increase 8.4% over 1982, a rate of growth that will be welcome but will leave the total far below the 2 billion lb level topped in 1978 and in 1979, the industry's record year.

These forecasts, the result of a yearly survey of producers and others in the industry, were reported in Houston last week to the annual meeting of the Reinforced Plastics/Composites Institute of the Society of the Plastics Industry. The survey is part of a report prepared for the group each year by Laura Morrison of the public relations firm Morrison/Gottlieb of New York City.

The industry's confident outlook for 1983 is based partly on expectations of a recovery in the general economy. The recession gets almost all of the producers' blame for last year's decline. "Since we provide materials and molded products to almost every major industry, when they take a dive, we go down too," says Frank W. Como, a marketing division vice president for Owens-Corning Fiberglas and chairman of the institute. "Actually, our materials traditionally hold up better than the markets they serve. As a result, in a growth year—like 1983—we go up faster."

There were no bright spots in 1982. Shipments to the land transportation sector, which accounts for 24% of the reinforced plastics industry in poundage, were down 19.3%. The drop is attributable to the poor performance of the automobile industry, where production fell 16%. In 1983, transportation equipment output is expected to rise. As a result, producers of reinforced plastics project a 12% increase in shipments to the land transportation sector. Still, even that gain would leave the total for the year, at 402 million lb, 27% below the 550 million lb sold during the peak year of 1979.

Sales in the construction sector, whose 1.6% decline in 1982 was the smallest drop for any individual market segment last year, will grow 5.8% in 1983, the institute says. That will be just enough to make growth for the sector over the five-year 1978–83 period positive, although the 1983 total of 330 million lb will fall slightly short of the peak reached in 1979.

The anticorrosion sector, the only market in which consumption of reinforced plastics grew between 1978 and 1982, accounted for 14.5% fewer sales last year than in 1981. With an anticipated rebound of 7.2% this year, however, its annual total will rise to 252 million lb, the highest since 1981, the best year ever for the sector.

Only a small recovery is seen for the marine sector, however, which was the second largest consumer of reinforced plastics in 1978. Depending largely on commerce in small recreational boats, the sector has been particularly damaged by the ups and downs of the business cycle since the late 1970s. Sales of reinforced plastics to the marine industry were down 20.7% in 1982, and the institute forecasts growth this year of only 2.2%. At that rate, the sector's consumption for the 1978–83 period will have fallen 11.4% per year.

For all this dismal performance by the major outlets for reinforced plastics in 1982, the biggest percentage drops came in the minor markets. Shipments to the electrical sector fell 21.3% last year, but much of that lost ground will be regained with a 15% increase in 1983, producers predict. Similarly, sales to the consumer goods sector plunged 27% in 1982. If the institute's forecasts are correct, poundage will grow 15.5% this year. In neither case, however, will next year's growth be enough to return sales totals to the levels attained in 1978.

The appliance sector, which had been larger than the consumer goods market until last year, dropped 29.9%, the biggest decrease by any market for reinforced plastics. And the outlook for 1983 is only mildly encouraging: Producers see a rise in shipments of only 2.4%. That would mean an average annual drop of 7.3% in sales to appliance makers for the 1978–83 period.

Aircraft manufacturers, whose own production levels fell 7.4% last year, ordered 21.4% less reinforced plastic in 1982 than in 1981. Although an anticipated increase of 13.6% this year will give sales to the sector a positive growth rate for the five-year period, at 25 million lb, it will remain a minor part of the industry.

Shipments in the miscellaneous category declined 14.7% in 1982. This year, producers predict, sales will increase 9.4% to 70 million lb.

Compared to all reinforced plastics last year, reinforced thermoplastics were relatively healthier. Shipments fell just 11.7%, compared to 17% for the industry as a whole. That made the reinforced thermoplastic share of all reinforced plastic poundage roughly 15.4%, a share which it is expected to maintain in 1983. □

Reinforced plastics demand in 1983 still trails 1979 levels

Millions of lb	1983[a]	1982[a]	1981	1980	1979	1978	% change 1982–83[a]	% change 1981–82[a]	Average annual change 1978–83[a]
Transportation, land	402	359	445	416	550	535	12.0%	−19.3%	−5.6%
Marine	235	230	290	275	385	430	2.2	−20.7	−11.4
Construction	330	312	317	287	335	320	5.8	−1.6	0.6
Anticorrosion	252	235	275	252	238	216	7.2	−14.5	3.1
Electrical	161	140	178	162	190	170	15.0	−21.3	−1.1
Appliance	84	82	117	104	130	123	2.4	−29.9	−7.3
Consumer goods	97	84	115	103	126	116	15.5	−27.0	−3.5
Aircraft	25	22	28	25	23	22	13.6	−21.4	2.6
Other	70	64	75	70	79	74	9.4	−14.7	0.3
TOTAL	1656	1528	1840	1694	2056	2008	8.4%	−17.0%	−3.8%

a Estimates. Source: Reinforced Plastics/Composites Institute of the Society of the Plastics Industry